



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,886	10/20/2003	Che-Li Lin	LEE0021-US	2058
7590 Michael D. Bednarek Shaw Pittman LLP 1650 Tysons Boulevard McLean, VA 22102		11/15/2007	EXAMINER ANDREWS, LEON T	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/687,886

Applicant(s)

LIN, CHE-LI

Examiner

Leon Andrews

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-8 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

- Applicant's Amendment filed August 28, 2007 is acknowledged.
- **Claims 1, 4 and 11** were amended.
- **Claims 2-3, 9-10 and 12-13** were cancelled.
- Amendment to Claim Objections is acknowledged and objections are withdrawn.
- Amendment to Claim Rejections is acknowledged and rejections are withdrawn.
- Examiner's Rejection to **Claims 1, 4-8 and 11** are not withdrawn.

1. **Claims 1, 4-8 and 11** are rejected under 35 U.S.C. 102(e) as being anticipated by Sriram (Patent No.: US 6,665,277 B1)

Regarding Claim 1, Sriram disclosed a method (Fig. 5 showing a sequence of steps to be performed) for a mobile unit (mobile receiver, column 5, line 21) synchronizing with a base station (base station, column 4, line 66) in a WCDMA system (WCDMA communication system, column 1, line 13), said base station (base station, column 4, line 66) transmitting a signal (Fig. 2, Signal IN) to said mobile unit, said signal having a primary synchronization channel (Fig. 5, Primary Sync Channel), a secondary synchronization channel (Fig. 5, Secondary Sync Channel), and a common pilot channel (Fig. 5, Tertiary Sync Channel), the method comprising:

receiving said signal (Fig. 2, Signal IN);

sampling said signal (Fig. 2, Signal IN) to generate a sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46);

selecting either odd ones or even ones of said sample signal during a first period (Fig. 5, 502) to be a first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502);

obtaining a first slot timing (Fig. 5, slot 1) according to said first period signal and said primary synchronization channel;

selecting either odd ones or even ones of said sample signal during a second period (Fig. 5, slot 2) different from the way during said first period to be a second period signal (Fig. 2, 504);

obtaining a second slot timing (Fig. 5, slot 2) and a slot synchronization signal (Fig. 2, Signal IN received at the second slot of Fig. 5, slot 2) according to said second period signal and said primary synchronization channel;

selecting either odd ones or even ones of said sample signal with said first selecting way (Fig. 7, sync using FSC) during a third period (Fig. 5, slot 3) different from the way during said second period to be a third period signal (Fig. 2, Signal IN received at third period Fig. 5, slot 3);

obtaining a frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 510) according to said first slot timing, said second slot timing, said slot synchronization signal (Fig. 2, Signal IN received at Fig. 5, slot 1), said secondary synchronization channel, and said third period signal; and

obtaining a scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66:

Art Unit: 2616

Fig. 8) according to said first slot timing, said second slot timing, said frame synchronization signal, and common pilot channel (Fig. 5, Tertiary Sync Channel) and said third period signal (Fig. 2, Signal IN received at third period Fig. 5, slot 3).

Regarding Claims 4 and 11, Sriram disclosed an apparatus for mobile unit (mobile receiver, column 5, line 21) synchronizing with a base station (base station, column 4, line 66) in a WCDMA system (WCDMA communication system, column 1, line 13), said base station transmitting a signal (Fig. 2, Signal IN) to said mobile unit, said signal having a primary synchronization channel (Fig. 5, Primary Sync Channel), a secondary synchronization channel (Fig. 5, Secondary Sync Channel), and a common pilot channel (Fig. 5, Tertiary Sync Channel), the apparatus comprising:

- a receiving unit (mobile receiver, column 5, line 21) for receiving said signal;

- a sampling unit (Fig. 2, 221) for sampling said signal to generate a sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46);

- a selecting unit (base station transmits a special signal, column 2, lines 27-28) for selecting either odd ones or even ones of said sample signal during a first period (Fig. 5, 502) to be a first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502), selecting either odd ones or even ones of said sample signal with a second selecting way (Fig. 7, detect sequences on TSC) during a second period (Fig. 5, 504) different from the way during said first period to be a second period signal (Fig. 2, Signal IN received in second period of Fig. 5, 504), selecting either odd ones or even ones of said sample signal during a third period (Fig. 5, slot 3) different from the way during said second period to be a third period signal (Fig. 2, Signal IN

Art Unit: 2616

received at third period Fig. 5, slot 3), and selecting either odd ones or even ones of said sample signal during a fourth period (Fig. 5, slot 4) different from the way during said third period to be a fourth period signal (Fig. 2, Signal IN received at Fig. 5, slot 4);

a first synchronization unit (Fig. 5, Primary Sync Channel) for obtaining a first slot synchronization signal (Fig. 2, Signal IN received at Fig. 5, slot 1) according to said first period signal and said primary synchronization channel, and obtaining a second slot synchronization signal (Fig. 2, Signal IN received at Fig. 5 slot 2) according to said second period signal and said primary synchronization channel (Fig. 5, Primary Sync Channel);

a second synchronization unit (Fig. 5, Secondary Sync Channel) for obtaining a first frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 510) according to a first slot synchronization signal (Fig. 2, Signal IN received at Fig. 5, slot 1), said secondary synchronization channel, and said third period signal, and obtaining a second frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 510) according to a second slot synchronization signal (Fig. 2, Signal IN received at Fig. 5 slot 2), said secondary synchronization channel, and said fourth period signal (Fig. 2, Signal IN received at Fig. 5, slot 4); and

a third synchronization unit (Fig. 5, Tertiary Sync Channel) for obtaining a first scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66; Fig. 8) according to said first frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 512), said common pilot channel (Fig. 5, Tertiary Sync Channel), and said third period signal (Fig. 2, Signal IN received at Fig. 5, slot 3).

Art Unit: 2616

Regarding Claim 5, Sriram disclosed the apparatus of claim 4, abandoning said first scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66; Fig. 8) if said mobile unit does not synchronize with said base station, and obtaining a second scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66; Fig. 8) according to said second frame synchronization signal, said common pilot channel (Fig. 5, Tertiary Sync Channel) and said fourth period signal (Fig. 2, Signal IN received at Fig. 5, slot 4).

Regarding Claim 6, Sriram disclosed the apparatus of claim 4, said first synchronization unit (Fig. 5, Primary Sync Channel) further obtaining a first slot timing (Fig. 5, slot 1) according to said first period signal (Fig. 2, Signal IN received at Fig. 5, 502) and said primary synchronization channel (Fig. 5, Primary Sync Channel).

Regarding Claim 7, Sriram disclosed the apparatus of claim 6, said first synchronization unit further obtaining a second slot timing (Fig. 5, slot 2) according to said second period signal (Fig. 2, Signal IN received at Fig. 5, 504) and said primary synchronization channel (Fig. 5, Primary Sync Channel).

Regarding Claim 8, Sriram disclosed the apparatus of claim 7, wherein said second synchronization unit (Fig. 5, Secondary Sync Channel) obtains said second slot timing (Fig. 5,

Art Unit: 2616

slot 2) by referring to said first slot timing (Fig. 5, slot 1) and said second slot timing (Fig. 5, slot 2).

Citation of Pertinent Prior Art

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ottosson et al. (Patent No.: US 6,480,558 B1) discloses synchronization and cell search methods and apparatus for wireless communications.

Moon et al. (Patent No.: US 6,741,578 B1) discloses apparatus and method for synchronizing channels in a WCDMA communication system.

Rudolf (Patent No.: US 6,539,032 B2) discloses methods for synchronizing between a base station and a mobile station in a cell-based mobile communications system.

Response to Arguments

3. Applicant's arguments filed August 28, 2007 have been fully considered, but they are not persuasive.

- In the remarks on pages 6-7 of the amendment, applicant contends that Sriram fails to teach the elements of the claims including the frame synchronization and partial synchronization code group identification.
- The examiner respectfully disagrees and contends that Sriram discloses selecting either odd ones or even ones of said sample signal during a first

period (Fig. 5, 502) to be a first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502);
obtaining a first slot timing (Fig. 5, slot 1) according to said first period signal and said primary synchronization channel;
selecting either odd ones or even ones of said sample signal during a second period (Fig. 5, slot 2) different from the way during said first period to be a second period signal (Fig. 2, 504);
obtaining a second slot timing (Fig. 5, slot 2) and a slot synchronization signal (Fig. 2, Signal IN received at the second slot of Fig. 5, slot 2) according to said second period signal and said primary synchronization channel.
Further, Sriram discloses comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66:
Fig. 8.

- In the remarks on page 7 of the amendment, applicant contends that there is no description of the operation or performance of the slot synchronization. Further, fails to the elements of claim 1 as mentioned above.
- The examiner respectfully disagrees and contends that Sriram discloses that the mobile receiver matches the synchronization codes being transmitted and complete frame synchronization by determining which of the 16 time slots is the first in the frame, column 3, lines 9-13. Further, Sriram discloses selecting either odd ones or even ones of said sample signal during a first period (Fig. 5,

502) to be a first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502);

obtaining a first slot timing (Fig. 5, slot 1) according to said first period signal and said primary synchronization channel;

selecting either odd ones or even ones of said sample signal during a second period (Fig. 5, slot 2) different from the way during said first period to be a second period signal (Fig. 2, 504);

obtaining a second slot timing (Fig. 5, slot 2) and a slot synchronization signal (Fig. 2, Signal IN received at the second slot of Fig. 5, slot 2) according to said second period signal and said primary synchronization channel.

- In the remarks on page 8 of the amendment, applicant contends that Sriram did not anticipate claim 1. Thus, claim 1 is patentable. Further, independent claims 4 and 11 are also patentable since similar features as claim 1. Moreover, since claims 5-8 are dependent on claim 4, claims 5-8 are also patentable and requests the withdrawal of the rejections of claims 1, 4-8 and 11.
- The examiner respectfully disagrees and contends that Sriram did anticipate claim 1 as revealed in claim 1 and in response to the amendments. Thus, claim 1 is not patentable. Consequently, independent claims 4 and 11 and dependent claims dependent claims 5-8 are also not patentable. Therefore, request to withdraw the objections of claims 1, 4-8 and 11 is denied.

- In remarks on page 8 of the amendment, applicant requests the allowance of all pending claims in view of the amendment.
- The examiner respectfully disagrees and contends that in view of the claims prosecution and the response to the amendments, all pending claims will not be allowed.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Andrews whose telephone number is (571) 270-1801. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rao S. Seema can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LA/la
May 26, 2007

LA

KWANG BIN YAO
SUPERVISORY PATENT EXAMINER

